

# **Local Hazards Mitigation Plan**

## **Walnut Creek Annex Plan**



April 2007

# Local Hazards Mitigation Plan

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## *Ad Hoc Committee*

Rachel Lenci	Engineering Services Manager
Dennis Bell	Police Captain
Rich Payne	Public Services Manager
Dan Cather	Public Services Manager
Matt Huffaker	Administrative Analyst
Robert Woods	Chief Building Official
Sandra Meyer	Planning Manager
Gayle Vassar	Community Relations Officer
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## Introduction

The City of Walnut Creek, nestled at the foot of Mt. Diablo, is located 23 miles east of San Francisco with a population of approximately 66,000<sup>1</sup>. The City is about 19.45 square-miles in size and owns approximately 2,704 acres of open spaces and over 206 acres of public recreational parks.

As a general law city, the City of Walnut Creek operates under a Council-Manager form of government with five City Council members elected at large, serving staggered four-year terms. The City employs approximately 381 regular employees and has a biennial operating budget of over \$128 million for 2006-2008<sup>2</sup>. While the City provides local police services, the fire protection services are supplied by the Contra Costa Fire Protection District.

## The Planning Process and Mitigation Activities

The City of Walnut Creek has a Safety Element in its current General Plan, which was recently updated and adopted in April of 2006 and includes a discussion of fire, earthquake, flooding and landslide hazards. In addition, the City routinely enforces the requirements of the California Environmental Quality Act (CEQA) requirements, which, since 1988, have required mitigation for identified natural hazards. The City's effort has focused on building on these pre-existing programs and identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

Many of the activities conducted by the City were fed into the planning process for the multi-jurisdictional plan. The City participated in various ABAG workshops and meetings, including the general "kick-off" and follow-up meetings.<sup>3</sup> In addition, the City has provided written and oral comments on the multi-jurisdictional plan. Finally, the City provided information on facilities that are viewed as "critical" to ABAG.

The Committee preparing the Local Hazards Mitigation Plan (LHMP) consists of eight representatives from various City departments. The Committee met on four occasions to identify and prioritize mitigation strategies appropriate for the City.<sup>4</sup> The Committee members are the Building Official, Engineering Services Manager, Public Services Managers, Police Captain, Community Relations Officer, Senior Planner and Administrative Analyst. At the first Committee meeting, general natural hazards and priorities were identified. The second and third meeting identified mitigation strategies along with the responsible department for each natural hazard. The fourth meeting

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<sup>1</sup> Source: California Department of Finance, January 2005.

<sup>2</sup> Source: City of Walnut Creek 2006-2008 Budget Highlights

<sup>3</sup> ABAG meetings attended by representatives of City of Walnut Creek are July 5 and November 12, 2004 and May 31, 2005

<sup>4</sup> LHMP Ad Hoc Committee met on May 28, 2004, March 7 and 28, 2005 and October 25 2005.

identified preliminary budgets and potential funding sources for strategies designed as “High” priority.

The public had an opportunity to comment on the Hazard Mitigation Strategies prioritized by City staff during the public comment period at the April 17, 2007 Council Meeting held at City Hall. The DRAFT Hazard Mitigation Plan Annex and Mitigation Strategies were also sent to major stakeholders within the City for input and suggestions including, the Contra Costa County Fire Protection District, East Bay Municipal Utilities District, Contra Costa County Flood Control District, Pacific Gas and Electric, John Muir Medical Center and Kaiser Permanente Medical Center, Contra Costa Sheriff’s Office, and all school districts within the City’s jurisdiction. The resolution adopting the plan and strategies was on the City Council agenda for April 17, 2007. The mitigation strategies will become an implementation appendix to the City of Walnut Creek’s Safety and Noise Element within its General Plan 2025.

## Hazard and Risk Assessment

The ABAG multi-jurisdictional Local Hazards Mitigation Plan, to which this is an Annex, lists nine hazards that impacts the Bay Area, five related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction and tsunamis) and four related to weather (flooding, landslides, wildfires and drought). However, only the following hazards are likely to happen in the City of Walnut Creek:

1. Faulting
2. Shaking
3. Earthquake-induced landslides
4. Liquefaction
5. Flooding
6. Landslides
7. Wildfires
8. Drought

Tsunamis are not considered a hazard for the City of Walnut Creek because the City is not located near the coast. While the City has undertaken a number of general hazard mapping activities since the first Safety Element was prepared by the City, all of these maps are less detailed and are not as current as those shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>.

The multi-jurisdictional plan did not detail out the City of Walnut Creek’s flood, landslide or wildfire threats and history. This information is provided below from the City’s Safety and Noise Element to the General Plan 2025.

Information on disasters declared in Contra Costa County is at <http://quake.abag.ca.gov/mitigation/disaster-history.html>.

The City examined the hazard exposure of City urban land based on the information on ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 10,425 urban acres in the City:

- ◆ 311 acres are in the 100-year floodplain, while an additional 158 acres are in flood prone areas;
- ◆ 1,401 acres are subject to dam failure inundation;
- ◆ 1,111 acres are in areas of moderate, high, or very high liquefaction susceptibility;
- ◆ 1,089 acres are in areas of existing landslides; and 3,242 acres are in areas of few landslides;
- ◆ 10,425 acres are in the highest two categories of shaking potential, in large part due to the City's proximity to the Hayward fault, Mt. Diablo Thrust Fault, Calaveras Fault, and the Concord/Green Valley Fault;
- ◆ 278 acres are within the Earthquake Fault Study Zone mapped by the California Geological Survey.
- ◆ 1,088 acres are subject to high and very high wildfire threat (because of the urban nature of the City), but 8,545 acres are in wildland-urban interface threat areas.
- ◆ Currently there is no mapping available for Contra Costa County Earthquake Liquefaction Study Zones and Earthquake Landslide Study Zones mapped by the California Geological Survey.
- ◆ All 10,425 acres are subject to drought.

The City also examined the hazard exposure of infrastructure based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 269 miles of roadway in the City,

- ◆ 10 miles of roadway are in the 100-year flood plain, while an additional 5 miles are in other flood-prone areas;
- ◆ 42 miles of roadway are in an area subject to dam inundation;
- ◆ 18 roads are in areas of existing landslides;
- ◆ 31 miles of roadway are in areas of moderate, high, or very high liquefaction susceptibility;
- ◆ 269 miles of roadway are in the highest two categories of shaking potential;
- ◆ 7 miles of roadway are within the Earthquake Fault Study Zone mapped by the California Geological Survey;
- ◆ 13 miles of roadway are subject to high and very high wildfire threat; 212 miles of roads are in wildland-urban interface threat areas.
- ◆ Currently there is no mapping available for Contra Costa County Earthquake Liquefaction Study Zones and Earthquake Landslide Study Zones mapped by the California Geological Survey.
- ◆ Drought – is not a hazard for roadways.

Finally, the City examined the hazard exposure of critical health care facilities, schools, and city-owned buildings based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickcrit.html>. Of the critical facilities in the City,

- ◆ 9 critical health care facilities, schools, or city-owned facilities are in the 100-year flood plain zones, while 1 facility is in a flood-prone area;
- ◆ 11 critical health care facilities, schools, or city-owned facilities are in an area subject to dam inundation;
- ◆ No critical health care facilities, schools, or city-owned facilities are in areas of existing landslides;
- ◆ 17 critical health care facilities, schools or city-owned facilities are in areas of moderate, high, or very high liquefaction susceptibility;

- ◆ All 15 schools, both fire stations, and the City Hall are in the highest two categories of shaking potential;
- ◆ While no schools are within the Earthquake Fault Study Zone mapped by the California Geological Survey, one city-owned critical facility (the Boundary Oaks Golf Course Maintenance Facility) is within the Earthquake Fault Study Zone;
- ◆ Three city-owned critical facilities are subject to high wildfire threat; 59 health care facilities, schools, or city-owned facilities are in wildland-urban interface threat areas.
- ◆ Currently there is no mapping available for Contra Costa County Earthquake Liquefaction Study Zones and Earthquake Landslide Study Zones mapped by the California Geological Survey.
- ◆ Drought will not affect city buildings directly. However, the city does not operate a water-supply distribution system.

While there are portions of the City located in flood-prone areas, there are only 6 repetitive loss properties in the City based on the information at <http://quake.abag.ca.gov/mitigation/pickflood.html>. These properties resulted in 15 claims amounting to \$158,283.

## Floods

The following information was taken from the City of Walnut Creek's Safety Element located in its General Plan 2025. The 100-year and 500-year flood maps in ABAG's plan were also used in each of the plans mentioned above. Below is additional information on the flood history and information that is specific to the City of Walnut Creek that was not mentioned in ABAG's Multi-Jurisdictional Local Government Hazard Mitigation Plan.

The City of Walnut Creek has had several streams in the Planning Area that have flooded, including Walnut Creek, Las Trampas Creek, Grayson-Murderers Creek (particularly in the Eccleston Avenue area), and San Ramon Creek (primarily at the confluence of the waterways downtown). Smaller streams subject to flooding include Tice Creek (particularly in the Castle Hill area) and the Walnut Boulevard channel (also known as Homestead Creek) between Homestead Boulevard and Sierra Drive. Flooding incidents in the City of Walnut Creek resulted in 6 damaged properties from 2001 to 2004.<sup>5</sup>

Within the Walnut Boulevard Channel/Homestead Creek Sub basin area is a privately owned and maintained lake (commonly referred to as Lake Lakewood) and a privately maintained dam. The dam is small enough in size that it does not require reporting to, or inspection by, the State Office of Dams. The lake's dam was constructed in the early 1900's and is now almost 100 years old. Lake Lakewood has a history of overflowing and overtopping its dam during periods of heavy rainfall including incidents in 1982 and most recently in 2005, which resulted in significant flooding of the Walnut Boulevard/Homestead and lower Lakewood areas.

In an effort to mitigate the potential for future overflowing of the Lakewood Lake/Dam, the City of Walnut Creek has facilitated several community meetings with the Lake Lakewood Association (Association) and neighboring community groups in the lower

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<sup>5</sup> Based on Repetitive Loss Report by FEMA dated 2004.

Lakewood area. The meetings were held to gain an understanding of the maintenance and inspection practices employed by the Association, and explore ways to improve communication between the Association and neighbors in the lower Lakewood area. As a result, City staff recommended several mitigation strategies to the Association including, conducting a review of the dam's structural integrity, lowering the water level of the lake in anticipation of winter season storms, dredging of the lake to increase water capacity, and the implementation of an overflow warning system for residents living below the dam. In addition, City maintenance crews and engineers have included the dam as part of their regular inspection program for storms.

## Landslides

The following information was taken from the City of Walnut Creek's Safety Element located in its General Plan 2025. The Landslide Hazard Maps in ABAG's plan were also used in each of the plans mentioned above. Below is additional information on landslide history and information that is specific to the City of Walnut Creek that was not mentioned in ABAG's Multi-Jurisdictional Local Government Hazard Mitigation Plan.

The City of Walnut Creek, as outlined in the City's Safety Element, has several areas of existing landslides and areas that have a high potential for landslides. These areas include Lime Ridge Open Space (including portions of the Boundary Oaks Municipal Golf Course), Shell Ridge Open Space (particularly near Walnut Boulevard, Castle Rock Road, and the eastern end of Rudgear Road), Acalanes Open Space and the Rossmoor area (including the Rossmoor Golf Course, the area east of Rossmoor Parkway, and along the western border of Walnut Creek and Lafayette). Refer to the City of Walnut Creek's General Plan Safety and Noise Section for additional details.

## Wildfires

The following information was taken from the California Department of Forestry (CDF) Wildland-Urban Interface Fire Threat, which outlines the relative wildfire risk to areas of significant population by intersecting residential housing density with proximate fire threat. The CDF Map was also referenced in the City of Walnut Creek's General Plan Safety and Noise Section. The map shows that much of the city is given a "very high" classification, primarily because Shell, Lime, and Las Trampas Ridges all have high fire-hazard potential, and all lie above the 450-foot water service level of the East Bay Municipal Utility District and above the 215-foot service elevation of the Contra Costa County Water District. Fire hazard in these areas is amplified by a lack of adequate water pressure and supply. Thus, fire hazard is of particular concern at the municipal golf course and in the southeastern areas of Ygnacio Valley near the ends of Snyder Lane and Hutchinson Road near Northgate Road. Refer to the City of Walnut Creek's General Plan Safety and Noise Section for additional details.

## Future Efforts

The City plans to work with ABAG during 2007 to improve the risk assessment information being compiled by ABAG by providing information on unreinforced masonry buildings and soft-story apartments located in the City. In addition, the City is also in the process of conducting a comprehensive study of the integrity of city owned buildings, and will share the results of the study with ABAG upon completion of the study.

Drought, though a potential problem in the City, is not fully assessed. The City will work with ABAG and various water supply agencies on this issue.

## Conclusion

As these impacts are not fully developed, the City has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. The conclusion is that earthquakes (particularly shaking), flooding, wildfire, and landslides (including unstable earth) pose a significant risk for potential loss.

## Mitigation Activities and Priorities

As a participant in the ABAG multi-jurisdictional planning process, the City of Walnut Creek staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The mitigation strategies were discussed at a meeting of the Executive Team comprised of all City Department Directors and the City Manager. At the meeting, all of the mitigation strategies were reviewed. The tentative decision on priority was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage.

Over time, we are committed to developing better hazard and risk information to use in making those trade-offs. We are not trying to create a disaster-proof region, but a disaster-resistant one. In addition, several of the strategies incorporate existing City programs.

These draft priorities was submitted to the City Manager for review on April 9, 2007. The draft priorities were then provided to the City Council on April 17, 2007. At that time, the public was provided with an opportunity to comment on the DRAFT priorities. The final strategies (as shown in the attached Table) will become an *Implementation Appendix* to the City's *Safety and Noise section of General Plan 2025*.

In addition, the City examined the hazard exposure information to City-owned critical facilities supplied by ABAG. The City has determined that due to the combination of construction type, age, and shaking exposure, several City-owned critical facilities are at significant risk including, the City's Corporation Yard, City Hall, Civic Park Community Center, Traffic Operations Center, and the Dean Leshner Center. Therefore, the City plans to apply for a Pre-Disaster Mitigation grant to retrofit these facilities.

Finally, the City of Walnut Creek has developed and implemented a Community Emergency Response Team (CERT) Training Program, which teaches community members how to prepare for, and survive a disaster. The City's CERT training program helps to reinforce the importance of emergency preparedness while helping to create a more unified citywide response during times of disaster.



## The Plan Maintenance and Updating Process

The City of Walnut Creek is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The City's Public Services Director will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the City again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the County's Office of Emergency Services. Counties should then work together to identify another regional forum for developing a multi-jurisdictional plan.

The City of Walnut Creek Public Services Department oversees monitoring of the Annex. The plan will be monitored on an on-going basis. However, the major disasters affecting our community, legal changes, notices from ABAG as the lead agency in this process, and other triggers will also prompt revisiting the plan. Finally, the Annex will be evaluated by City staff annually to review and modify existing strategies as necessary.

The public will continue to be involved whenever the plan is updated and, as appropriate, during the monitoring and evaluating process. Updates will be posted on the City's website and public comment invited, encouraging community members to be involved in the plan update process. All public comments will be reviewed. Publicly initiated changes will be integrated into the plan updates whenever reasonable.